

ABSTRACT

It is an object of this invention to provide a high-frequency amplifier which can efficiently amplify an input signal in a plurality of different frequency bands in a simple configuration. The high-frequency amplifier is configured such that an RF signal having n frequencies ($f_1 > f_2, \dots, > f_n$) applied to the amplifier is converted by an impedance conversion circuit to a higher impedance than the output impedance of the amplifier, and is branched into the highest frequency f_1 and lower frequencies lower than that by a high-pass filter and a low-pass filter. Frequency f_1 passes high-pass filter 31, and is thereby converted to 50 ohms. The frequencies lower than frequency f_1 filtered by the low-pass filter are converted to a high impedance by an impedance conversion circuit, and are branched into the second highest frequency f_2 and lower frequencies by high-pass filter 32 and low-pass filter 42. In the same manner, impedance conversion circuits are added, while the signals are branched up to f_n , to match the impedance to 50 ohms for each of the frequencies.